

There are many forms of energy, each with its advantages and disadvantages. From water power to solar energy, every option has nuances related to installation, maintenance, and life cycle cost.

Understanding the pros and cons of each type of power infrastructure is essential in building resilient energy solutions that will serve our communities today and into the future.

---

## What is hydropower?

---

Hydropower, or hydroelectric power, is energy harnessed by moving water. One of the oldest and cleanest renewable energy sources, the natural movement of flowing water generates power by transforming it from mechanical energy to electrical energy.

---

## How does hydropower work?

---

Water + Gravity = Hydropower.

Water stored in a reservoir is potential energy that works similarly to a battery. The more water you have and the farther it has to fall, the more energy you generate. When the water is allowed to run downhill, either in the natural river channel or in a tunnel or pipe, that potential energy is converted into kinetic energy. The moving water hits the turbine and makes it

people and jurisdictions at different times. Every state considers at least some, but not necessarily all, hydroelectric power to be renewable.

For example, the states of Michigan and Missouri don't currently recognize hydropower to be renewable if it requires the construction of new dams, and California and Iowa only consider energy from smaller hydroelectric turbine generators (regardless of the size of the dam) in their renewable definitions, although California intends to count all hydropower eventually. Ohio allows utilities to count hydropower as renewable as long as their facilities are not harmful to fish, wildlife, or water quality. But when you consider the raw inputs and process, the energy created is clean and renewable.



---

### About the Author

---

Randy Bowersox, PE, is a hydropower market executive with Gannett Fleming.

---

---

---

---

---